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EXAMINER

YAGER, JAMES C

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/574,987	Applicant(s) BRUER ET AL.	
	Examiner JAMES YAGER	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20060406</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the phrase “climate, respectively ventilating channel” renders the claim indefinite because it is unclear what is meant by this phrase.

Regarding claim 1, the phrase “especially with” renders the claim indefinite because it is unclear whether the limitation is actually required.

Regarding claim 1, the phrase “temperature resistance to fulfill the demands of the normative fire resistance categories or similar norms” renders the claim indefinite because it is unclear how much temperature resistance is required to meet this limitation.

Regarding claim 1, the phrase “soluble in a physiological milieu” renders the claim indefinite because it is unclear how soluble the insulating element must be, or what is meant by physiological milieu.

Art Unit: 1794

Regarding claim 1, the phrase "direction of the longitudinal axis of said climate respectively ventilating channel, to which they are attached" renders the claim indefinite because it is unclear what is meant by this phrase.

Claim 1 recites the limitation "the fibrous structure" in line 8-9. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 1, the phrase "in the range of 20 to 120 kg/m³" renders the claim indefinite because it is unclear whether this density refers to the insulating element or the fiber.

Regarding claim 1, the phrase "referred to the fiber mass" renders the claim indefinite because it is unclear what is meant by "referred to".

Claim 1 recites the limitation "the fiber mass" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 2, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claim 3, the phrase "referred to the fiber mass" renders the claim indefinite because it is unclear what is meant by "referred to".

Regarding claim 4, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033

Art Unit: 1794

(Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 4 recites the broad recitation amounts to 20 to 40 kg/m³; 60 to 80 kg/m³; 90 to 120 kg/m³ and the claim also recites 30 kg/m³; 70 kg/m³; 110 kg/m³ which is the narrower statement of the range/limitation.

Regarding claim 4, the term "similar" in lines 2, 3 and 4, render the claim indefinite because it is unclear how similar the category has to be to be considered similar.

Regarding claim 5, the term "similar" in line 3, renders the claim indefinite because it is unclear how similar the category has to be to be considered similar.

Regarding claim 6, the term "λ-arithmetic value" renders the claim indefinite because it is unclear what is meant by this term.

Regarding claim 7, the phrase "consists of" renders the claim indefinite because given the use of the narrow language it is unclear how the inner lining "consists of" the cover and still has the insulating element of claim 1.

Art Unit: 1794

Regarding claim 7, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention.

See MPEP § 2173.05(d).

Regarding claim 4, the term "similar" in lines 3 and 4, render the claim indefinite because it is unclear how similar the device or unit have to be to be considered similar.

Regarding claim 10, the phrase "physiological milieu" renders the claim indefinite because it is unclear what is meant by this phrase.

Regarding claim 10, the phrase "meet the demands of European guideline 97/69/EG and/or the demands of the German Norm for Dangerous Products, Section IV, No. 22" renders the claim indefinite because it is unclear what these standards represent.

Regarding claim 11, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948);

Art Unit: 1794

and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 11 recites the broad recitation 1:2, up to a maximum gross density of 50 kg/m^3 , and the claim also recites 1:3, up to a maximum gross density of 30 kg/m^3 which is the narrower statement of the range/limitation.

Regarding claim 12, the phrase “marking features of claim 1” renders the scope of the claim is confusing given that it states that claim 1 is drawn to marking features, however, claim 1 is drawn to a channel. Additionally, it is not clear what the marking features are. For purposes of this office action it will be interpreted as the distinguishing features (i.e. features) of claim 1.

Claim 12 recites the limitation “the marking features” in line 3. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 13, the phrase “inner/outer liner according to claim 11” renders the scope of the claim is confusing given that claim 11 is drawn to a channel not a lining.

Regarding claim 13, the term “other” renders the claim indefinite because is unclear what is encompassed by this term.

Regarding claim 14, the phrase “self-sustaining” renders the scope of the claim is confusing given that there is no disclosure in claim 1 that the channel is self-sustaining.

Regarding claim 14, the phrase “platelike” renders the claim indefinite because the claim includes elements not actually disclosed (those encompassed by “like”), thereby rendering the scope of the claim unascertainable. See MPEP § 2173.05(d).

Art Unit: 1794

Regarding claim 14, the phrase "exclusively composed" renders the claim indefinite because it is unclear if this is broad or narrow language.

Regarding claim 15, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claim 15, the term "similar" in line 2, renders the claim indefinite because it is unclear how similar the device has to be to be considered similar.

Claim 16 recites the limitation "their junctions" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 16, the term "respectively" renders the claim indefinite because it is unclear what it is respective to.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

Art Unit: 1794

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lardillat et al. (US 5,975,146) in view of Vignesoult et al. (US 6,284,684), Kiisler et al. (US 4,172,042) and Olds et al. (US 5,714, 421).

Regarding claims 1-16, Lardillat discloses a ventilation duct including an envelope lined on the inside by insulation panels (i.e. climate, respectively ventilating channel with an inner lining composed of at least one insulating element; in form of a plate; which may be disposed at least in one layer in the direction of the longitudinal axis of said climate, respectively ventilating channel to which they are attached) (abstract), wherein the insulation panels are made of mineral wool (i.e. composed of mineral fibers) (C2/L16-25), wherein the insulation panels are covered on either or both sides by a protective sheet made of a voile or fabric of glass (i.e. glass fleece) or a sheet of aluminum (i.e. aluminum foil) (i.e. characterized in that said inner lining consists

Art Unit: 1794

of an attrition resistant, acoustically transparent cover, such as glass fleece or similar device; characterized in that said inner lamination is formed of a diffusion-resistant cover, such as an aluminum foil or similar device; featuring a lamination on their inner and outer surface) (C3/L5-25), wherein the panels are assembled with assembly shaped sections which are folded (i.e. characterized in that the insulating elements are connected together at their junctions via folds) (C4/L8-50). It is clear from figure 1 that the cross section is square shaped (i.e. to a rectangular respectively square cross-section) (Fig. 1).

Lardillat does not disclose that the mineral fibers are soluble in a physiological milieu, that the insulating element features an alkali/earth alkali relation of <1 and the fibrous structure of said insulating element is determined by an average geometric fiber diameter of $\leq 4 \mu\text{m}$, in the range of 20 to 120 kg/m^3 or reinforced with a binding agent in the range of 4 to 7 weight %; wherein the binding agent is an organic binding agent such as phenol-formaldehyde resin; wherein the portion of binding agent is within the range of 4.5 to 6 weight %.

Vignesoult discloses a mineral wool capable of dissolving in physiological medium comprising SiO_2 39-55%, Al_2O_3 16-27%, CaO 3-35%, MgO 0-15%, Na_2O 0-15%, K_2O 0-15%, $\text{Na}_2\text{O} + \text{K}_2\text{O}$ 10-17% P_2O_5 0-3%, Fe_2O_3 0-15% B_2O_3 0-8% and TiO_2 0-3% (i.e. clearly overlapping the claimed ranges of SiO_2 39-55%, Al_2O_3 16-27%, CaO 6-20%, MgO 1-5%, Na_2O 0-15%, K_2O 0-15%, $\text{Na}_2\text{O} + \text{K}_2\text{O}$ 10-14.7% P_2O_5 0-3%, Fe_2O_3 1.5-15% B_2O_3 0-2% and TiO_2 0-2%) (abstract). Vignesoult discloses that this mineral

Art Unit: 1794

wool prevents any potential pathogenic risk associated with accumulation of the fibers in the body by inhalation (i.e. soluble in a physiological milieu) (C1/L47-53).

It would have been obvious to one of ordinary skill at the time the invention was made to use the mineral wool of Vignesoult in the insulating panels of Lardillat to provide a duct that prevents any potential pathogenic risk associated with accumulation of the fibers in the body by inhalation and therefore has improved safety.

Kiisler discloses a heat insulating material comprising from 85 to 98 parts by weight of mineral wool and from 15 to 2 parts by weight of a binder which is a modified resol phenol-formaldehyde resin (i.e. clearly overlapping a binding agent in the range of 4 to 7 weight %; 4.5 to 6 weight%; organic binding agent such as phenol-formaldehyde resin) (abstract). Kiisler discloses that the heat insulating material has improved adhesion properties, reduced water absorption and increased moisture resistance (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the resol phenol-formaldehyde resin binder in the amounts disclosed by Kiisler in the insulating panels of the duct of modified Lardillat in order to provide a duct having insulating panels having improved adhesion properties, reduced water absorption and increased moisture resistance.

Olds discloses a mineral wool blanket comprising fibers having a diameter of about 1.5 to 3.5 microns and a bulk density of 1.5 to 3 pcf (i.e. 24-48 kg/m³) (i.e. fibrous structure of said insulating element is determined by an average geometric fiber

Art Unit: 1794

diameter of $\leq 4\mu\text{m}$; clearly overlapping 20 to 120 kg/m^3). Olds discloses that the blanket exhibits friendly feeling, good fire resistance and is low cost.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the fiber diameter of 1.5 to 3.5 microns and a bulk density of 1.5 to 3 pcf of Olds in the mineral wool of modified Lardillat in order to provide a duct having insulating panels with friendly feeling, good fire resistance and that is low cost.

Given the use of the term “and/or” it is the Examiner’s position that the outer lining is optional. Given that the outer lining is optional, it is the Examiner’s position that modified Lardillat meets the limitations of claim 4.

Given that the duct and insulating panels of modified Lardillat are identical in composition and structure to the instantly claimed ventilating channel and insulating elements, it is the Examiner’s position that the duct of modified Lardillat will intrinsically have a temperature resistance to fulfill the demands of normative fire resistance categories or similar norms; feature an alkali/earth alkali relation of <1 ; a gross density of fire resistance category L30 or similar, featuring a longitudinal flux resistance according to DIN EN ISO 9053 or $< 15\text{kPas/m}^2$; λ -arithmetic value of $\leq 35 \text{ mW/mK}$; a point of fusion according to DIN 4102, part 17 of $\geq 1.000^\circ\text{C}$; may be compressed at least in a relation of 1:2, up to a maximum gross density of 50 kg/m^3 , especially at least in a relation of 1:3 up to a maximum gross density of 30 kg/m^3 ; the marking features of claim 1; exclusively composed of platelike insulating elements reinforced with binding agent, said elements featuring a lamination on their inner and outer surface.

Given that the mineral fibers of modified Lardillat are identical in composition and structure to the instantly claimed mineral fibers, it is the Examiner's position that the mineral fibers of modified Lardillat will intrinsically have a solubility in a physiological milieu that meets the demands of the European guideline 97/69/EG and/or the demands of the German Norm for Dangerous Products, Section IV, No. 22.

Although modified Lardillat does not disclose that the mineral fibers are produced by internal centrifugation pursuant to the centrifuging basket with a centrifuging basket temperature of at least 1,000 °C as claimed, it is noted that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process", *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) . Further, "although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product", *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983). See MPEP 2113.

Therefore, absent evidence of criticality regarding the presently claimed mineral fibers being produced by internal centrifugation pursuant to the centrifuging basket with a centrifuging basket temperature of at least 1,000 °C and given that modified Lardillat meets the requirements of the claimed climate, respectively ventilating channel, modified Lardillat clearly meets the requirements of present claim 9.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES YAGER whose telephone number is (571)270-3880. The examiner can normally be reached on Mon - Fri, 7:30am-5pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JY 11/24/09

/Rena L. Dye/
Supervisory Patent Examiner, Art Unit 1794